

**An Investigation into the Theory of
Escapist Behaviour and the
Relationship Between the
Internet and Depression, Anxiety and
Social Phobia**

Andrew J. Campbell

B.A. (Psychology & Education) *U.Sydney*

Mapp.Sc (Behavioural Science) *U.Sydney*

Thesis submitted in fulfillment of the requirements for the degree of
Doctor of Philosophy, School of Behavioural & Community Health
Sciences, Faculty of Health Sciences,
The University of Sydney.

October 2003

Certification

I, Andrew J. Campbell, do hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma of a university or other institute of higher learning, except where due acknowledgement is made in the text.

Andrew J. Campbell

Supervisor's Certification

I, Dr. Steven R. Cumming, do certify that the Ph.D. thesis entitled *An Investigation into the Theory of Escapist Behaviour and the Relationship Between the Internet and Depression, Anxiety and Social Phobia* by Andrew J. Campbell is in a form suitable for examination.

Dr. Steven R. Cumming

Acknowledgements

The journey undertaken when pursuing a Ph.D. is a long and arduous one. Fortunately those who provide support, motivation, knowledge, friendship and love, make the trip through the long research and writing process more bearable and very rewarding. It is to these remarkable people I welcome the opportunity to give thanks.

For his easy-going attitude, yet thorough professionalism, I thank Dr. Steven Cumming for his supervision and statistical expertise provided during the analysis portion of my dissertation.

To Dr. Ian Hughes, I believe no words I could write could fully encompass the amount of gratitude I have for his supervision and support. For imparting wisdom that has inspired me to be a life-long learner and a passionate seeker of knowledge, and for the countless opportunities he supplied me with to openly discuss my research process and fragmented thoughts over a 'warm cuppa' - I thank you with the deepest of respect.

I wish to thank the University of Sydney and the Faculty of Health Sciences for granting me the opportunity to conduct my research within this prestigious institution. I would also like to acknowledge the many people in the School of Behavioural & Community Health Sciences who have shown great kindness and support, both academically and administratively over the years. In particular I would like to thank for their support and encouragement Associate Professor Ross Menzies, Associate Professor Cherry Russell and Dr. Rob Heard. I especially want to convey my gratitude to Mrs Philippa Harrington, who has been of enormous help in numerous ways, and has for many a year tolerated my endless pestering about administrative matters within the School.

Further thanks must be given to Dr. Eric Weiser of Curry College in Massachusetts, USA. His advice and consultancy for my topic of research has been unwavering for the duration of my Ph.D. research. I only hope that my contribution to the emerging field of Internet based Psychology and Research is considered just half as good as his research to date. In kind, I wish to thank Dr. Jason Zack of the University of Miami, who has been a keen motivator and supporter of my research interests. I aspire to develop my career as well as he has his own.

I must also acknowledge the pioneers in the field of Psychology and Internet studies; Dr. John Suler, Dr. Michael Fenichel and Dr. Azy Barak, all of whom have produced research of great benefit to global mental health issues, with the aim of bringing an understanding of mental health investigation to an online audience. I particularly wish to acknowledge research contributions made by Dr. John Grohol and Dr. Richard A. Davis, of which their work has greatly inspired my own research.

I want to thank my uncle, James Frost, for his belief in my potential at a young age to achieve anything I wanted to in my life. My dear friend Peter Mahoney who, through use of obscure humour at times, has kept my head in the right place when it needed to be and prevented me from taking life too seriously with his impromptu comic relief. To Trygve A. Saetherskar whose friendship and in-depth chats have helped me to pace myself during my research process. Most importantly, to my mother Lana Campbell, from whom I have always drawn my greatest courage and inspiration from anytime I've pursued a project or dream I have wanted to fulfil.

I wish to thank my many friends, colleagues and extended family, that have each contributed in their own ways and have helped to make my research journey all that more rewarding. Samantha Bloor, Angela Cooley, Gari C. D'Avanni, Joanne Dykstra and family, Bronwyn McKeon, Debbie Mehefko, Dr. Hashim Saba, Sgt. April Sharon (US Army), and all my fellow postgraduate students whom I have shared so much with.

In closing, I want to say thank you to the man who inspired me many years ago to begin a degree in Psychology, and have that degree turn into a career of endless possibilities. To Dr. Philip G. Zimbardo – thank you for presenting Social Psychology in a way that has led so many students to become fascinated with the human condition.

In Dedication

Megan Rose

Forever & Always

DILBERT by Scott Adams

LIE TO YOUR COMPUTER

COMPUTERS HATE PEOPLE. THEY WILL DESTROY YOUR DATA JUST TO BE MEAN. YOUR BEST STRATEGY IS TO LIE TO YOUR COMPUTER AND CONVINCe IT THAT YOU DON'T CARE ABOUT YOUR DATA.

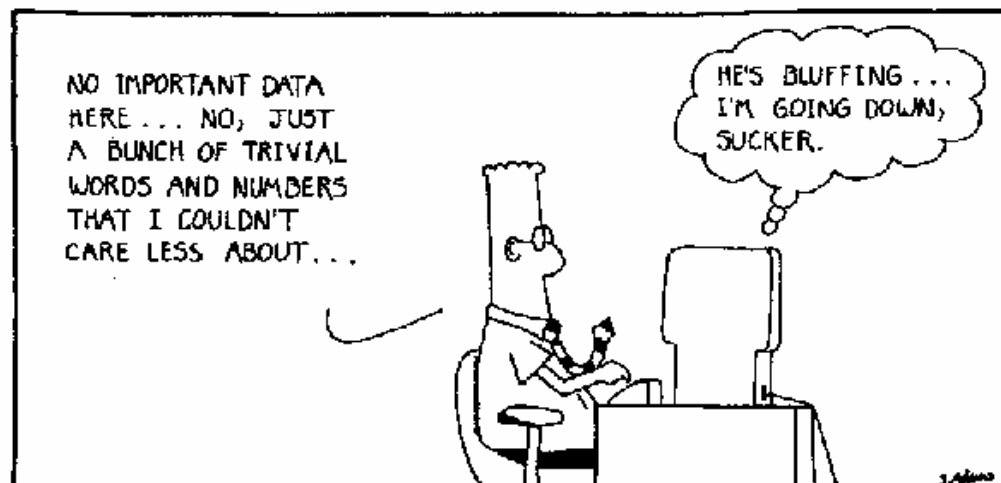


Table of Contents

Acknowledgements	iii
List of Appendices	x
List of Tables	xi
List of Figures	xii
Glossary and Abbreviations	xiii
Abstract	xv
Chapter 1: Introduction to the Research	
Outline of research rationale	2
The Internet, depression, anxiety and social phobia	2
Historical foundations of the Internet	3
Indications for concern over Internet use	4
The Internet and its psychological impact	11
Core literature for the current project	11
Time spent online and psychological well-being	15
Thesis overview	19
Chapter 2: Internet Communication	
Overview of the chapter	22
Gender, age & culture: Who uses the Internet?	24
Gender differences in Internet use	24
Age and cultural demographics online	28
Internet addiction	31
Addicted to socialising	43
Online relationships	46
Internet communication	46
Friendships in virtual communities	49
Romance in cyberspace	52
Cyber-belonging	55

Chapter 3: Focus of the Present Study

Overview of the chapter and current research	60
Depression	61
Definition	61
Theories and models of depression	61
Biological approaches of depression	62
Cognitive approached of depression	63
Social psychological theory of depression	68
Interpersonal theory of depression	70
Gender differences in depression	72
Personality and depression	74
Treatment practices of depression	76
Internet use and depression	83
Research hypotheses	88
Anxiety and social phobia	89
Definition	89
Theories and models of anxiety and social phobia	90
Neurobiological theories of anxiety	90
Psychoanalytic theories of anxiety	91
Behavioural & cognitive theories of anxiety	92
Social phobia	93
Treatment practices for anxiety disorders	95
Anxiety disorders	95
Social phobia	97
Research hypotheses	100
Escapist behaviour	101
Research hypotheses	107

Chapter 4: Issues in Online Research and Project Methodology

Overview of the chapter	110
Introduction to online research	111
Advantages of online research	112
Limitations of online research	115
Methodological approaches for Internet research	116
Quantitative approaches discussed in relation to the present study	118
Qualitative approaches for online research	119
Mixed method approaches for online research	121
Ethical considerations for online research	122
Recruiting research participants online	126
Choosing subjects: Advocating care in selection	126
Recruiting subjects on the web	126
Data storage for research participant responses	130
Avoiding double-up research participant responses	132
Methods of the current study	134
Sample	134
Design and materials	134
Procedure	140

Chapter 5: Results

Overview of the chapter	144
Reliability of online instruments	145
Online scale intercorrelations: Validity of online measures	147
Perceived effects of Internet use	148
Online and offline samples	150
Psychological consequences of time spent online	152
Depression	152
Anxiety	153
Eysenck personality variables	154
Social function of the Internet: Chat	155

Reported effects of Internet use	158
The Internet effects questionnaire	158
Results summary	160
Chapter 6: Discussion	
Discussion	162
Depression, anxiety and social phobia	162
Escapist behaviour theory reviewed	168
Conclusion	172
References	175
Appendices	211

Appendices

Appendix A	Intercorrelations between time online and psychological variables	211
Appendix B	Subject information statement	212
Appendix C	Research outline for prospective research participants	213
Appendix D	Subject consent form	214
Appendix E	Internet Use Questionnaire (Part 1 & Part 2)	215
Appendix F	Internet Effects Questionnaire	217
Appendix G	Zung Depression Scale	218
Appendix H	Fear of Negative Evaluation Scale	219
Appendix I	Eysenck Personality Questionnaire	220
Appendix J	Depression, Anxiety and Stress Scales	221

List of Tables

Table 1.	The Distribution of Age of Internet Users	28
Table 2.	Beck's Cognitive Errors	65
Table 3.	Meier (2002), Context of Depressive Personality Disorder	74
Table 4.	Research Sample Percentage of Agreement to IEQ Questions	149
Table 5.	Comparison of Offline sample with a random sub-sample of the Online sample	151
Table 6.	Correlations Between Time Spent Online and Clinical Depression Instruments (Online Sample)	152
Table 7.	Correlations Between Time Spent Online and Anxiety Instruments	153
Table 8.	Correlations Between Time Spent Online and the Variables Derived from the Eysenck Personality Questionnaire (Revised)	154
Table 9.	Comparison of Chat Users with Nonusers on the Mood and Personality Variables	156
Table 10.	Analysis of Covariance – Chat users vs Non-Chat Users Controlling for Age and Time Online	157
Table 11.	Frequency of Regular Chat Users and Non-Chat Users Responding 'Yes' to Depression, Anxiety and Social Phobia Related Items IEQ	159

List of Figures

Figure 1.	Davis (1999) Cognitive-Behavioural Model of Pathological Internet Use	35
Figure 2.	Grohol (1999) Model of Pathological Internet Use	44
Figure 3.	Beck's Theory of Depression, illustrating the Inter-relationships among different kinds of cognitions	64
Figure 4.	Theorised Escapist Behaviour Model for those who suffer from Depression/Anxiety symptoms	106
Figure 5.	Theorised Social Approach Behaviour Model of High-level Chat users who are Socially Fearful	170

Glossary and Abbreviations

ABS	Australian Bureau of Statistics
APD	Avoidant Personality Disorder
Avatars	A graphic used in a online chat environment, sometimes used to display a physical image of a person whilst engaged in computer-mediated communication.
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
CBT	Cognitive Behaviour Therapy
Chat	Computer-mediate Communication that takes place online in a synchronous (real-time) forum. See IRC, mIRC and GMUK.
CMC	Computer-mediated Communication
CMR	Computer-mediated Relating (similar to CMC)
CM	Chat-Mediated (environment)
Cybersex	Sexual interaction that takes place using an online environment that is either chat, e-mail or web camera based.
Cyberspace	Term coined by William Gibson that gives reference to the cyber-world that has been created by the convergence of Information Technology, computers, digital media and telecommunications.
DASS	Depression, Anxiety and Stress Scale
DPD	Depressive Personality Disorder
EB	Escapist Behaviour
e-mail	Electronic mail that can be accessed using the Internet to communicate privately between individuals.
EPQ-R	Eysenck Personality Questionnaire – Revised (Short Scale)
FNE	Fear of Negative Evaluation Scale
GAD	Generalised Anxiety Disorder
GMUK	Graphical Multi-User (K)onversation

Hardware	The physical components that make up a computer system, such as hard-drives, peripheral devices, monitor, motherboard, central processing units and memory.
FTP	File Transfer Program
IEQ	Internet Effects Questionnaire
Internet	The interconnected, global network of computers, which includes the World Wide Web, email and other services.
Internet Addiction	Initial theory about addictive qualities of Internet use. Also see PIU.
IP Address	Internet Protocol Address
IRC	Internet Relay Chat
ISP	Internet Service Provider
IT	Information Technology
IUQ	Internet User Questionnaire
mIRC	multiple-Internet Relay Chat (environments)
MUD	Multi-User Domains (Chat environments)
NIAC	National Internet Advisory Committee (USA)
Online	Being logged on to the Internet.
Offline	Being logged off the Internet.
PIU	Pathological Internet Use
RSVP	Retired and Senior Volunteer Program (Singapore)
SAB	Social Approach Behaviour
Software	Applications that allow people to interface and perform tasks with computers and the Internet.
Usenet Groups	User network groups, which band together on the Internet to share information about general or specific information. Most commonly these groups use message boards to post information to the group members.
WWW	World Wide Web
ZDS	Zung Depression Scale

Abstract

The Internet and its psychological impact upon individuals has predominantly been argued to provoke addictive qualities with 'over-users' of the Internet, of which reinforcement of depression or anxiety symptoms may be compounded by sufferers of these mood disorders. Due to the ease of access that most people have to the Internet in developed countries, it is estimated that more people are spending longer on the Internet compared to the time spent in traditional face-to-face social environments. This argument suggests that an ever-increasing number of people are becoming isolated from traditional social settings because of the Internet, which therefore may increase factors that lead to depression and anxiety symptoms.

The present study offers a new theory, hypothesising that the Internet increases the chance of meaningful relationships and can help to improve self-confidence, social abilities and social support. The test hypotheses are based on the researchers model of Escapist Behaviour, which claims that individuals tested as having low level mood disorders, such as depression, anxiety and social fearfulness, who spend large amounts of time using specific Internet resources, do so as a means of 'escape' from reality. It is also theorised that time spent using the specific function of 'chat' on the Internet enables these users to explore facets of their cognitive processes and general social behaviour. When offline, reflection of their social experience online may lead these users to perceive coping with their mood disorder.

The study was conducted over the Internet using a web site to recruit and test a self-selected global population of Internet users. 188 research subjects formed the online sample group, while paper and pencil tests were administered to an offline sample group of 27 undergraduate university students, who were regular Internet users. This second group was used to see if online quantitative testing methods raised any concerns for validity in comparison to pencil-and-paper

report methods. Subjects were required to complete several standardised and research specific questionnaires ranging from the Zung Depression Scale, Depression, Anxiety and Stress Scales, Eysenck Personality Questionnaire – Revised Short Scale, Fear of Negative Evaluation Scale, Internet Use Questionnaire and an Internet Effect Survey.

Between the offline and online sample groups of Internet users, no discerning difference was measured in the validity of testing subjects online or offline via traditional paper and pencil format. Out of 188 subjects in the online sample group, 117 fell into the 'high Internet use' category of +3 hours a day spent online, compared to the 'low Internet use' group of 71 subjects who spent less than 1.5 hours a day online. The high user group was found to be older and significantly more depressed and anxious than the low user group. The high-level user group also spent more time online using specific chat application programs. Out of the 215 research subjects in the study, it was found that 137 who use chat programs have a significantly lower lie scale score, which also correlated with significantly high levels on the Fear of Negative Evaluation Scale, suggesting that these users of the Internet spend longer time periods online to aid them in coping with social fearfulness and anxiety. No evidence was attained in the data to suggest that time spent online correlates with contributing to depression, anxiety or social phobic disorders. However, Chat users believed that the Internet is psychologically beneficial to them, but also believed that frequent Internet users are lonely and that the Internet can be addictive.

Escapist Behaviour theory put forward by the researcher resulted in the suggestion that this model is an entrance into the cycle of constant high-level use of the Internet. From the results, it is theorised that specific use of Chat functions online may actually form a Social Approach Behaviour pattern, whereby subjects measured as socially fearful use the Internet to rehearse social behaviour that may help them improve interaction with offline, face-to-face, social environments.